



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,317	02/06/2002	Eyal Aronoff	QSOFT.103A	9700
20995	7590	12/07/2005	EXAMINER	
KNOBBE MARTENS OLSON & BEAR LLP 2040 MAIN STREET FOURTEENTH FLOOR IRVINE, CA 92614			AILES, BENJAMIN A	
			ART UNIT	PAPER NUMBER
			2142	

DATE MAILED: 12/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/072,317	ARONOFF ET AL.
	Examiner	Art Unit
	Benjamin A. Ailes	2142

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 19 September 2005.

2a) This action is **FINAL**.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1,5-16 and 20-23 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1, 5-16, 20-23 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.

5) Notice of Informal Patent Application (PTO-152)

6) Other: \_\_\_\_\_.

**DETAILED ACTION**

1. This action is in response the Amendment filed 19 September 2005.
2. Claims 2-4 and 17-19 have been cancelled. Claims 1, 5-16, and 20-23 remain pending.

***Specification***

3. The new abstract filed 19 September 2005 has been entered into the record. The prior objection has been withdrawn.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
6. Claims 1, 5-11, 13-16, and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kolovson (US 5,951,695) in view of Wolff (US 6,067,545).

7. Regarding claim 1, Kolovson discloses a database cluster which avoids client failure by connecting to multiple nodes of the cluster, the database cluster comprising: a first computing system including:

a primary connection manager which forms a client connection with and receives transactions from at least one client (col. 4, lines 39-47), and

a primary database management system (DBMS) which communicates with the primary connection manager to receive the transactions and executes the transactions on data stored in one or more data files; and

a second computing system including (col. 4, lines 48-51):

a secondary connection manager (col. 4, lines 39-47), and

a secondary DBMS which communicates with the secondary connection manager and can access data stored in the one or more data files (col. 4, lines 51-54),

wherein when the secondary connection manager determines that an unbalanced workload exists between the first and the second computing systems, the secondary connection manager receives data from the client connection, replays incomplete portions of open transactions on the data through the secondary DBMS, and begins to receive additional transactions from the at least one client to be executed against the one or more data files (col. 4, lines 54-57).

Kolovson discloses the method of detecting a predetermined condition in a database system, but is silent on the predetermined condition being an

unbalanced workload between a first and a second computing system. However, in art related to the rebalancing of workloads in computer network systems, Wolff discloses the ability to detect when specific nodes' workloads become unbalanced and a method to rebalance resources in the network in order to rectify the problem (see Wolff, col. 5, lines 37-42 and col. 20, lines 37-46). One of ordinary skill in the art at the time of the applicant's invention would have found it obvious and would have been motivated to utilize the load rebalancing system as disclosed by Wolff in combination with the database cluster system as disclosed by Kolovson in order to provide more efficient, robust communication between a plurality of clients and a plurality of resources via a plurality of nodes.

8. Regarding claim 5, Kolovson discloses the highly available database cluster wherein the primary connection manager and the secondary connection manager communicate with one another (col. 4, lines 39-47).
9. Regarding claim 6, Kolovson discloses the highly available database cluster wherein the primary connection manager transmits copies to the secondary connection manager of data packets which include the transactions and responses or acknowledgements to the transactions (col. 4, lines 51-54).
10. Regarding claims 7, Kolovson discloses the highly available database cluster wherein the primary connection manager and the secondary connection manager exchange statistics in order to monitor the client connection (col. 4, lines 51-54).
11. Regarding claims 8 and 9, Kolovson discloses the method of keeping track of statistics, but is silent on keeping track of the number of clients connected to the

system. However, in art related to the applicant's invention, Wolff discloses the method of recording statistics and keeping track of the users connected to system (col. 20, lines 42-49). The motivation rationale utilized in claim 1 applies equally as well to claims 8 and 9.

12. Regarding claim 10, Kolovson discloses the highly available database cluster wherein the statistics include whether the secondary connection manager can communicate with the primary connection manager (col. 4, lines 54-57).

13. Regarding claim 11, Kolovson discloses primary and at least one secondary connection manager of a database cluster, which manage a connection between at least one client and two or more database management systems (DBMSs), wherein the primary and at least one secondary connection manager can move the connection from the primary connection manager to the at least one secondary connection manager while providing protocols for the connection native to the two or more DBMSs, the primary and secondary connection manager comprising:

a first memory (col. 4, lines 58-64);

a primary connection configured to form a connection with a client and to place statements from transactions from the client into the first memory (col. 4, lines 48-51);

a primary protocol shadow configured to retrieve the statements and forward the statements to a primary DBMS (col. 4, lines 48-51);

a secondary memory (col. 4, lines 58-64);

a secondary connection configured to receive transactions from the connection with the client when the secondary connection manager determines that the primary connection has an unbalanced workload and to place new statements from the transactions from the client into the second memory (col. 4, lines 39-47); at least one process configured to replay any incomplete statements of open transactions (col. 4, lines 54-57); and a secondary protocol shadow configured to connect to the at least one process until the incomplete statements are forwarded to a secondary DBMS and then to connect to the secondary memory to retrieve the new statements and forward the new statements to the secondary DBMS (col. 4, lines 54-57).

As mentioned in claim 1, Kolovson discloses the method of detecting a predetermined condition in a database system, but is silent on the predetermined condition being an unbalanced workload between a first and a second computing system. However, in art related to the rebalancing of workloads in computer network systems, Wolff discloses the ability to detect when specific nodes' workloads become unbalanced and a method to rebalance resources in the network in order to rectify the problem (see Wolff, col. 5, lines 37-42 and col. 20, lines 37-46). One of ordinary skill in the art at the time of the applicant's invention would have found it obvious and would have been motivated to utilize the load rebalancing system as disclosed by Wolff in combination with the database cluster system as disclosed by Kolovson in order to provide more

efficient, robust communication between a plurality of clients and a plurality of resources via a plurality of nodes.

14. Regarding claim 13, Kolovson discloses the primary and at least one secondary connection manager wherein the at least one process further comprises:

an import process configured to retrieve the statements from the primary connection and store those statements associated with open transactions (col. 4, lines 54-57); and

a replay process configured to access the stored statements and to forward the stored statements to the secondary protocol shadow (col. 4, lines 54-57).

15. Regarding claim 14, Kolovson discloses the primary and at least one secondary connection manager wherein the secondary protocol shadow is configured to access a log file of the primary DBMS to ensure against replaying of statements of closed transactions (col. 4, lines 58-65).

16. Claim 15 contains similar subject matter and is rejected under the same rationale as claim 5.

17. Claim 16 contains similar subject matter and is rejected under the same rationale as claim 7.

18. Regarding claim 20, Kolovson discloses a method of providing transparent fail-over to a client connection when a primary database management system DBMS has an unbalanced workload, the method comprising:

monitoring statistics of a client connection between a first DBMS and a client, wherein said monitoring is performed by a connection manager of a second DBMS (col. 4, lines 51-54); determining from the statistics a need to move the client connection to a second DBMS while keeping the client connection alive from a perspective of the client (col. 4, lines 51-57); rerouting the client connection to the second DBMS (col. 4, lines 39-47); replaying any statements from open transactions rolled back when the client connection was moved from the first DBMS (col. 4, lines 58-65); and establishing communication between the second DBMS and the client over the client connection (col. 4, lines 39-47).

As mentioned in claim 1, Kolovson discloses the method of detecting a predetermined condition in a database system, but is silent on the predetermined condition being an unbalanced workload between a first and a second computing system. However, in art related to the rebalancing of workloads in computer network systems, Wolff discloses the ability to detect when specific nodes' workloads become unbalanced and a method to rebalance resources in the network in order to rectify the problem (see Wolff, col. 5, lines 37-42 and col. 20, lines 37-46). One of ordinary skill in the art at the time of the applicant's invention would have found it obvious and would have been motivated to utilize the load rebalancing system as disclosed by Wolff in combination with the database cluster system as disclosed by Kolovson in order to provide more

efficient, robust communication between a plurality of clients and a plurality of resources via a plurality of nodes.

19. Regarding claim 21, Kolovson discloses a data processing system which provides transparent fail-over to a client connection, the data processing system comprising:

a first host configured to accept a client connection from a client (col. 4, lines 39-47);

a connection manager of a second host which reroutes the client connection to the second host without recognition by the client when the connection manager determines that the first host has an unbalanced workload (col. 4, lines 39-47); and

a replay process which forwards to the second host at least one incomplete statement from open transactions when the client connection was moved from the first host, wherein the connection manager establishes communication between the second host and the client over the client connection (col. 4, lines 48-57).

As mentioned in claim 1, Kolovson discloses the method of detecting a predetermined condition in a database system, but is silent on the predetermined condition being an unbalanced workload between a first and a second computing system. However, in art related to the rebalancing of workloads in computer network systems, Wolff discloses the ability to detect when specific nodes' workloads become unbalanced and a method to rebalance resources in the

network in order to rectify the problem (see Wolff, col. 5, lines 37-42 and col. 20, lines 37-46). One of ordinary skill in the art at the time of the applicant's invention would have found it obvious and would have been motivated to utilize the load rebalancing system as disclosed by Wolff in combination with the database cluster system as disclosed by Kolovson in order to provide more efficient, robust communication between a plurality of clients and a plurality of resources via a plurality of nodes.

20. Regarding claim 22, in accordance with claim 21, Kolovson discloses the data processing system wherein the client communication comprises a protocol native to the primary host (col. 4, lines 39-47).

21. Claims 12 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kolovson and Wolff in view of Bhanot et al. (U.S. 5,796,934), hereinafter referred to as Bhanot.

22. Regarding claims 12 and 23, Kolovson discloses the use of native protocols but is silent on the protocol being SQL\*Net. However, in a related fault tolerant system for a client server database system, Bhanot discloses the utilization of the SQL\*Net protocol when conducting communications between primary and backup servers (col. 6, lines 6-22). It would have been obvious to one of ordinary skill in the art at the time the application was made to use the SQL\*Net protocol in combination with the database cluster system as disclosed by Kolovson. One of ordinary skill in the art would have been motivated to make such a combination because the SQL\*Net protocol is well known in database communication and is used in order to conduct quick and easy

communications and hide the complexities associated with network operations (see Bhanot, col. 6, lines 16-19),

***Response to Arguments***

23. Applicant's arguments filed 19 September 2005 have been fully considered but they are not persuasive.

24. (A) Applicant argues on page 9 of Remarks, "Kolovson does not disclose the standby node monitoring an unbalanced workload between the primary node and the secondary node." In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., standby node monitoring an unbalanced workload between the primary node and the secondary node.) are not recited in the rejected claim(s).

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

25. (B) Applicant argues on page 9 of Remarks, "Kolovson does not disclose a second computer system having a secondary connection manager that determines if an unbalanced workload exists between the first and the second computing systems.

26. Applicant's arguments with respect to claim 1, Argument (B) have been considered but are moot in view of the new ground(s) of rejection as necessitated by amendment.

27. (C) Applicant submits on pages 10-11 of Remarks that "neither Wolfe nor a combination of Kolovson and Wolfe teaches or suggests the system recited in amended claim 1."

28. As to point (C), Applicant's attention is directed to the rejection of claim 1 above in paragraph 7 for a detailed look as to why the Examiner believes claim 1 is not patentable over the combination of Kolovson and Wolff.

29. (D) Applicant argues on page 11 of Remarks, "Wolfe ... does not teach or suggest monitoring the workload of a first computer system with a second computer system, wherein the second computer system takes over transactions from a client computer when the workload of the first computer system becomes unbalanced."

30. As to point (D), Applicant is reminded that Wolff is not relied upon by the Examiner for teaching the specifics of a second computer system taking over transactions of a first computer system. Wolff is relied upon for showing to the Applicants' the ability in the art for monitoring workloads in a computer system and detecting when the workloads become unbalanced as explained above in the new rejection of claim 1 as necessitated by amendment.

### ***Conclusion***

31. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin A. Ailes whose telephone number is (571)272-3899. The examiner can normally be reached on M-F 6:30-4, IFP Work Schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on (571)272-3868. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

baa

*Beatriz Prieto*  
BEATRIZ PRIETO  
PRIMARY EXAMINER